



#25

SEQUENCE LISTING

- <110> Li, Zhongsen
Falco, S. Carl
- <120> S-ADENOSYL-L-METHIONINE SYNTHETASE PROMOTER AND
ITS USE IN EXPRESSION OF TRANSGENIC GENES IN PLANTS
- <130> BB1205 US NA
- <140> US/09/464,528
- <141> 1999-12-15
- <160> 20
- <170> Microsoft Office 97
- <210> 1
- <211> 1518
- <212> DNA
- <213> Glycine max

RECEIVED
OCT 3 1 2002
TECH CENTER 1600/2900

<400> 1
agccaagccc cactcaacca ccacaccact ctctctgctc ttcttctacc tttcaagttt 60
ttaaagtatt aagatggcag agacattcct atttacctca gactcagtga acgagggaca 120
ccctgacaag ctctgcgacc aaatctccga tgctgtcctc gacgcttgcc ttgaacagga 180
cccagacagc aaggttgccct gcgaaacatg caccaagacc aacttggtca tggctcttcgg 240
agagatcacc accaaggcca acgttgacta cgagaagatc gtgcgtgaca cctgcaggaa 300
catcggcttc gtctcaaacg atgtgggact tgatgctgac aactgcaagg tccttgtaaa 360
cattgagcag cagagccctg atattgcccc ggggtgtgcac ggccacctta ccaaaagacc 420
cgaggaaatc ggtgctggag accaggggtca catgtttggc tatgccacgg acgaaacccc 480
agaattgatg ccattgagtc atgttcttgc aactaaactc ggtgctcgtc tcaccgaggt 540
tcgcaagaac ggaacctgcc catgggttag gcctgatggg aaaacccaag tgactgttga 600
gtattacaat gacaacggtg ccatggttcc agttcgtgtc cacactgtgc ttatctccac 660
ccaacatgat gagactgtga ccaacgacga aattgcagct gacctcaagg agcatgtgat 720
caagccggtg atcccggaga agtaccttga tgagaagacc attttccact tgaaccctc 780
tgcccgtttt gtcattggag gtcctcacgg tgatgctggt ctaccggcc gcaagatcat 840
catcgatact tacggaggat ggggtgctca tgggtggtggt gctttctccg ggaaggatcc 900
caccaaggtt gataggagtg gtgcttacat tgtgagacag gctgctaaga gcattgtggc 960
aagtggacta gccagaaggt gcattgtgca agtgtcttat gccattggtg tgcccagacc 1020
tttgtctgtc tttgttgaca cctatggcac cgggaagatc catgataagg agattctcaa 1080
cattgtgaag gagaactttg atttcaggcc cggtatgatc tccatcaacc ttgatctcaa 1140
gaggggtggg aataacaggt tcttgaagac tgctgcatat ggacacttcg gcagagagga 1200
ccctgacttc acatgggaag tggtaagcc cctcaagtgg gagaaggcct aaggccattc 1260
attccactgc aatgtgctgg gagtttttta gcgttgccct tataatgtct attatccata 1320
actttccacg tcccttgctc tgtgttttct tctcgtcgtc ctctctctat tttgtttctc 1380
ctgcctttca tttgtaattt tttacatgat caactaaaaa atgtactctc tgttttccga 1440
ccattgtgtc tcttaatatc agtatcaaaa agaattgtcc aagttaaaaa aaaaaaaaaa 1500
aaaaaaaaaa aaaaaaaaaa 1518

- <210> 2
- <211> 2336
- <212> DNA
- <213> Glycine max

<400> 2
atcgatagag acatgttatt cacaaccat aaaatgatgg ctaaaattgg tgtgattgga 60
acgatatctg tttattatga tttcaggcgc caaaaatgcg agtacttaat aaaattttac 120
atttaaatta gaattttttt tatcaataaa tattaattta ttagttttat tagaaatatt 180
aattagaaaa ttttgaatcc ccgattttct ctctttttct tcgctattca tcattttcta 240

accaaacc	aa	tctt	atat	gt	tctt	caaatt	agaact	tgaa	attatta	aatt	ataatta	aaac	300
tgaaaaca	aat	ttgg	tata	caa	ttcata	tata	tgctt	tagtaa	taaa	atgcga	taatta	aattg	360
ataaat	ctgc	aaaag	at	ttt	acaa	atat	ctt	cagaaaa	atta	aata	aca	aattt	420
tttt	cat	ggt	gtt	ggt	ctga	ggagg	at	tg	act	tac	ggacc	attct	480
ttgc	act	tca	act	aa	acgat	ggtc	aga	att	ggt	ggg	gatt	ttata	540
ttca	aa	act	ct	tact	tact	tcgt	gc	gtt	g	g	g	g	600
at	tt	ta	acc	ct	ta	acagt	aa	att	t	ga	ag	gac	660
act	at	tt	tt	tt	tt	tt	tt	tt	tt	tt	tt	tt	720
ac	ag	at	g	t	a	a	a	a	a	a	a	a	780
ct	c	ag	c	c	c	c	c	c	c	c	c	c	840
ct	c	c	c	c	c	c	c	c	c	c	c	c	900
tc	ata	cta	at	t	at	at	t	at	at	at	at	at	960
t	aaa	ag	at	tt	t	aaa	aaa	aaa	aaa	aaa	aaa	aaa	1020
tt	tt	g	ata	at	tt	tt	tt	tt	tt	tt	tt	tt	1080
cat	ag	t	ct	tt	g	tt	t	ac	aaa	ag	catt	c	1140
cta	ac	ag	t	ag	at	ct	ct	g	g	g	g	g	1200
g	aa	ag	ag	ag	t	c	ag	a	a	a	a	a	1260
g	g	g	g	g	g	g	g	g	g	g	g	g	1320
tt	ga	g	at	t	ca	ct	c	g	a	c	t	c	1380
aca	at	c	ca	at	t	ct	c	g	t	a	c	t	1440
t	c	c	c	t	a	t	a	a	a	a	a	a	1500
a	ag	a	c	a	c	a	c	a	c	a	c	a	1560
t	t	t	c	t	t	c	c	c	c	c	c	c	1620
g	t	t	g	c	t	t	t	g	c	t	t	t	1680
t	c	t	t	c	t	t	t	a	a	t	c	t	1740
ta	at	t	g	c	c	t	t	t	t	t	t	t	1800
aa	ac	c	t	t	g	g	g	c	t	t	g	g	1860
tt	g	a	at	t	g	t	g	t	t	g	t	t	1920
t	ag	c	t	t	ca	a	a	a	a	a	a	a	1980
t	a	a	t	c	c	c	t	t	c	a	a	a	2040
t	t	a	a	a	t	t	c	t	a	a	a	a	2100
g	t	t	g	t	a	a	a	t	t	t	t	t	2160
ag	at	g	g	c	ag	a	c	at	t	c	ta	a	2220
t	c	t	g	c	g	a	c	a	a	a	a	a	2280
ag	g	t	t	g	c	c	t	g	c	c	t	g	2336

<210> 3
 <211> 522
 <212> DNA
 <213> Glycine max

<220>
 <221> unsure
 <222> (405)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (509)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (515)
 <223> n = a, c, g or t

<400>	3												
g	a	c	a	a	g	a	c	a	c	a	a	a	60
t	t	t	t	g	a	a	g	a	t	g	g	c	120
c	a	c	c	c	t	g	a	t	a	a	a	c	180

gaccagaca	gcaaggttgc	ctgcgaaaca	tgcaccaaga	ccaacttggc	catggtcttc	240
ggagagatca	ccaccaaggc	caacgttgac	tacgagaaga	tcgtgcgtga	cacctgcagg	300
agcatcggct	tcatctcaaa	cgatgtggga	cttgatgctg	acaactgcaa	ggctccttga	360
aacattgagc	agcagagccc	tgatattgcc	cagggcgtgc	acggncacct	tacccaaaaga	420
cctgaagaaa	ttggcgctgg	tgaccaaggt	cacatgtttg	gctatgccac	tgatgaaacc	480
ccaaaattca	tgccattgag	tcatgttcnt	gcaancaagc	tc		522

<210> 4
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: PCR Primer

<400> 4
 catgccatgg ttatacttca aaaactgcac 30

<210> 5
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: PCR Primer

<400> 5
 gctctagatc aaactcacat ccaa 24

<210> 6
 <211> 1314
 <212> DNA
 <213> Glycine max

tctagatcaa	actcacatcc	aaacataaca	tggatatctc	cttaccaatc	atactaatta	60
ttttgggtta	aatattaatc	attatTTTTA	agatattaat	taagaaatta	aaagattttt	120
taaaaaaatg	tataaaatta	tattattcat	gatttttcat	acatttgatt	ttgataataa	180
atatattttt	tttaatttct	taaaaaatgt	tgcaagacac	ttattagaca	tagtcttggt	240
ctgtttacaa	aagcattcat	catttaatac	attaaaaaat	atttaatact	aacagtagaa	300
tcttcttggtg	agtgggtgtg	gagtaggcaa	cctggcattg	aaacgagaga	aagagagtca	360
gaaccagaag	acaaataaaa	agtatgcaac	aaacaaatca	aaatcaaagg	gcaaaggctg	420
gggttggttc	aattgggttc	tacattcaat	tttcaactca	gtcaacggtt	gagattcaact	480
ctgacttccc	caatctaagc	cgcggtatgca	aacggttgaa	tctaaccac	aatccaatct	540
cgttacttag	gggcttttcc	gtcattaact	caccctgccc	accggtttc	cctataaatt	600
ggaactcaat	gtccccctct	aaactcgtat	cgcttcagag	ttgagaccaa	gacacactcg	660
ttcatatata	tctctgctct	tctcttctct	tctacctctc	aaggtaactt	tcttctccct	720
ctaccaaata	ctagattccg	tggttcaatt	tcggatcttg	cacttctggt	ttgctttgcc	780
ttgctttttc	ctcaactggg	tccatctagg	atccatgtga	aactctactc	tttctttaat	840
atctgcgga	tacgcgttgg	actttcagat	ctagtcgaaa	tcatttcata	attgcctttc	900
tttcttttag	cttatgagaa	ataaaatcat	ttttttttat	ttcaaaataa	accttggggc	960
ttgtgctgac	tgagatgggg	tttgggtgatt	acagaatttt	agcgaatttt	gtaattgtac	1020
ttgtttgtct	gtagttttgt	tttgttttct	tgtttctcat	acattcctta	ggcttcaatt	1080
ttattcgagt	ataggtcaca	ataggaattc	aaactttgag	caggggaatt	aatcccttcc	1140
ttcaaatcca	gtttgtttgt	atatatgttt	aaaaaatgaa	acttttgctt	taaattctat	1200
tataactttt	tttatggcaa	aaatttttgc	atgtgtcttt	gctctcctgt	tgtaaattta	1260
ctgttttaggt	actaactcta	ggcttggtgt	gcagtttttg	aagtataacc	atgg	1314

<210> 7
 <211> 22

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR Primer

 <400> 7
 ttcgagtata ggtcacaata gg 22

 <210> 8
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR Primer

 <400> 8
 cttcgctgag gacatggac 19

 <210> 9
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR Primer

 <400> 9
 gagttgtcgc tgttgttcga c 21

 <210> 10
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR Primer

 <400> 10
 aacacagcat ccgcattgcg 20

 <210> 11
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR Primer

 <400> 11
 aggagtgcag aatcagatca g 21

 <210> 12
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR Primer

<400> 12
gctgatcgaa ccagatggag

20

<210> 13
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer

<400> 13
ctgtacagtt aaacagtagt tct

23

<210> 14
<211> 2165
<212> DNA
<213> Glycine max

<400> 14
atcgatagag acatgttatt cacaaacccat aaaatgatgg ctaaaattgg tgtgattgga 60
acgatatctg tttattatga tttcagggcg caaaaatgcg agtacttaat aaaattttac 120
atttaaatta gaattttttt tatcaataaa tattaattta ttagttttat tagaaatatt 180
aattagaaaa ttttgaatcc cggattttct ctctttttct tcgctattca tcattttcta 240
accaaaccac tcttatatgt tottcaaatt agaacttgaa attattaatt ataattaaac 300
tgaaaacaat ttggtatcaa ttcatatata tgcttagtaa taaaatgcga taattaattg 360
ataaatctgc aaaagatttt acaaatatct ttcagaaaaa attaataaca aattttgtcg 420
ttttcatggg gttggtctga ggaggatttg gcactataga actctcctac ggaccattct 480
ttgcacttca actaaacgat ggtcagaatt ggtggggatt ttatattcaa gcatatccct 540
ttcaaaaact cctacttact tcgtgcgttc ggtaatcggg aacattagac tttcaaaatc 600
atttttaacc cctaaacagt aaatttgaag gacaaaaata atatttttca aatttgatag 660
actatttttt ttttgtaatt tgacgaacca aaaccagatt tatcctgaat ttttaggaacc 720
acagatgtaa ctaaaccaat atttatttat tttctaaaac aaaatttcat ggcagcatgc 780
ctcagcccat gaaaaaaacc ttataaaaaat atctacacat tgaccattga aaagttcggt 840
tcctcatggg taaccagatc aaactcacat ccaaacataa catggatata tccttaccac 900
tcatactaatt tattttgggt taaatattaa tcattatttt taagatatta attaagaaat 960
taaaagattt tttaaaaaaa tgtataaaat tatattattc atgatttttc atacatttga 1020
ttttgataat aaatatattt tttttaattt cttaaaaaat gttgcaagac acttattaga 1080
catagtcttg ttctgtttac aaaagcattc atcatttaac acattaaaaa atatttaata 1140
ctaacagtag aatcttcttg tgagtgggtg gggagtaggc aacctggcat tgaaacgaga 1200
gaaagagagt cagaaccaga agacaaataa aaagtatgca acaaacaaat caaaatcaaa 1260
gggcaaaggc tggggttggc tcaattgggt gctacattca attttcaact cagtcaacgg 1320
ttgagattca ctctgacttc cccaatctaa gccgcggatg caaacggttg aatctaacc 1380
acaatccaat ctcgttactt aggggctttt ccgtcattaa ctcaccctg ccaccgggt 1440
tccctataaa ttggaactca atgctccct ctaaaactcg atcgcttcag agttgagacc 1500
aagacacact cgttcatata tctctctgct cttctcttct cttctacctc tcaaggta 1560
tttcttctcc ctctaccaa tcttagattc cgtggttcaa tttcggtatc tgcacttctg 1620
gtttgctttg cttgtctttt tcttcaactg ggtccatcta ggatccatgt gaaactctac 1680
tctttcttta atatctgcgg aatacgcgtt ggactttcag atctagtcga aatcatttca 1740
taattgcctt tctttctttt agcttatgag aaataaaaatc attttttttt atttcaaaat 1800
aaaccttggg cttgtgtctg actgagatgg ggtttggtga ttacagaatt ttagcgaatt 1860
ttgtaattgt acttgtttgt ctgtagtttt gttttgtttt cttgtttctc atacattctc 1920
taggcttcaa ttttattcga gtataggtea caaatggaat tcaaaccttg agcaggggaa 1980
ttaatccctt ccttcaaatc cagtttgttt gtatatatgt ttaaaaaatg aaacttttgc 2040
tttaaatctt attataactt tttttatggc aaaaattttt gcatgtgtct ttgctctcct 2100
gttgtaaat tactgtttag gtactaactc taggcttggt gtgcagtttt tgaagtataa 2160
agatg 2165

<210> 15
 <211> 1574
 <212> DNA
 <213> Glycine max

<400> 15
 atcgatagag acatgttatt cacaaacccat aaaatgatgg ctaaaattgg tgtgattgga 60
 acgatatctg tttattatga tttcagggcg caaaaatgcg agtacttaat aaaattttac 120
 atttaaatta gaattttttt tatcaataaa tattaattta ttagttttat tagaaatatt 180
 aattagaaaa ttttgaatcc ccgattttct ctccttttct tcgctattca tcattttcta 240
 accaaaccaa tcttatatgt tcttcaaatt agaacttgaa attattaatt ataattaaac 300
 tgaaaacaat ttggtatcaa ttcataataca tgcttagtaa taaaatgcga taattaattg 360
 ataaatctgc aaaagatttt acaaatatct ttcagaaaaa attaataaca aattttgtcg 420
 ttttcattgg gttgggtctga ggaggatttg gcactataga actctcctac ggaccattct 480
 ttgcacttca actaaacgat ggtcagaatt ggtggggatt ttatattcaa gcatatccct 540
 ttcaaaaact cctacttact tcgtgcgttc ggtaatcggt aacatttagac tttcaaaaatc 600
 atttttaacc cctaaacagt aaatttgaag gacaaaaata atatttttca aatttgatag 660
 actatttttt ttttgtaatt tgacgaacca aaaccagatt tatcctgaat ttttaggaacc 720
 acagatgtaa ctaaaccaat atttatttat tttctaaaaa aaaatttcat ggcagcatgc 780
 ctcagcccat gaaaaaaacc ttataaaaaat atctacacat tgaccattga aaagttcggt 840
 ctcccatggg taaccagatc aaactcacat ccaaacataa catggatata tccttaccaa 900
 tcataactaat tattttgggt taaatattaa tcattatttt taagatatta attaagaaat 960
 taaaagattt tttaaaaaaa tgtataaaat tatattattc atgatttttc atacatttga 1020
 ttttgataat aaatatattt tttttaattt cttaaaaaat gttgcaagac acttattaga 1080
 catagtcttg ttctgtttac aaaagcattc atcatttaat acattaaaaa atatttaata 1140
 ctaacagtag aatcttcttg tgagtgggtg gggagtaggc aacctggcat tgaaacgaga 1200
 gaaagagagt cagaaccaga agacaaataa aaagtatgca acaaacaaat caaaatcaaa 1260
 gggcaaggcg tgggttggtg tcaattgggt gctacattca attttcaact cagtcaacgg 1320
 ttgagattca ctctgacttc cccaatctaa gccgcggatg caaacggttg aatctaacc 1380
 acaatccaat ctctgttactt aggggtcttt ccgtcattaa ctacccctg ccaccggtt 1440
 tccctataaa ttggaactca atgctcccct ctaaactcgt atcgcttcag agttgagacc 1500
 aagacacact cgttcatata tctctctgct cttctcttct cttctacctc tcaagttttt 1560
 gaagtataaa gatg 1574

<210> 16
 <211> 719
 <212> DNA
 <213> Glycine max

<400> 16
 agatcaaact cacatccaaa cataacatgg atatctcctt accaatcata ctaattattt 60
 tgggttaaatt attaatacatt atttttaaga tattaattaa gaaattaaaa gattttttta 120
 aaaaatgtat aaaattatat tattcatgat ttttcataca tttgattttg ataataaata 180
 tatttttttt aatttcttaa aaaatgttgc aagacactta ttagacatag tcttgttctg 240
 tttacaaaag cattcatcat ttaatacatt aaaaaatatt taatactaac agtagaatct 300
 tcttgtagt ggtgtgggag taggcaacct ggcattgaaa cgagagaaag agagtcagaa 360
 ccagaagaca aataaaaaagt atgcaacaaa caaatcaaaa tcaaagggca aaggctggg 420
 ttggctcaat tgggtgctac attcaatttt caactcagtc aacggttgag attcactctg 480
 acttcccaa tctaagccgc ggatgcaaac ggttgaatct aaccacaat ccaatctcgt 540
 tacttagggg cttttccgtc attaactcac cctgccacc cggtttccct ataaattgga 600
 actcaatgct cccctctaaa ctcgatcgc ttcagagttg agaccaagac aactcgttc 660
 atatatctct ctgctcttct cttctcttct acctctcaag tttttgaagt ataaagatg 719

<210> 17
 <211> 6975
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:plasmid

<220>
 <221> unsure
 <222> (3367)
 <223> n = a, c, g or t

<400> 17

gaatatgcat	cactagtaag	ctttgctcta	gaggatccaa	ttccaatccc	acaaaaatct	60
gagcttaaca	gcacagttgc	tcctotcaga	gcagaatcgg	gtattcaaca	ccctcatatc	120
aactactacg	ttgtgtataa	cgggtccacat	gccggtatat	acgatgactg	gggttgtaca	180
aaggcggcaa	caaacggcgt	tcccggagtt	gcacacaaga	aatttgccac	tattacagag	240
gcaagagcag	cagctgacgc	gtacacaaca	agtcagcaaa	cagacagggt	gaacttcac	300
cccaaaggag	aagctcaact	caagcccaag	agctttgcta	aggccctaac	aagcccacca	360
aagcaaaaag	cccactggct	cacgctagga	accaaaaaggc	ccagcagtga	tccagcccca	420
aaagagatct	cctttgcccc	ggagattaca	atggacgatt	tcctctatct	ttacgatcta	480
ggaaggaagt	tcgaaggtga	aggtgacgac	actatgttca	ccactgataa	tgagaagggt	540
agcctcttca	atttcagaaa	gaatgctgac	ccacagatgg	ttagagaggc	ctacgcagca	600
ggtctcatca	agacgatcta	cccagagtaac	aatctccagg	agatcaaata	ccttcccaag	660
aaggttaaaag	atgcagtcaa	aagattcagg	actaattgca	tcaagaacac	agagaaaagc	720
atattttcca	agatcagaag	tactattcca	gtatggacga	ttcaaggctt	gcttcataaa	780
ccaaggcaag	taataagagat	tggagtctct	aaaaaggtag	ttcctactga	atctaaggcc	840
atgcatggag	tctaagattc	aaatcgagga	tctaacagaa	ctcgccgtga	agactggcga	900
acagttcata	cagagtcttt	tacgactcaa	tgacaagaag	aaaatcttcg	tcaacatggg	960
ggagcacgac	actctggtct	actccaaaaa	tgtcaaagat	acagtctcag	aagaccaaaag	1020
ggctattgag	acttttcaac	aaaggataat	ttcgggaaac	ctcctcggat	tccattgccc	1080
agctatctgt	cacttcacgc	aaaggacagt	agaaaaggaa	ggtggctcct	acaaatgcca	1140
tcattgcat	aaaggaaaag	ctatcattca	agatgcctct	gccgacagtg	gtcccaaaga	1200
tggaacccca	cccacgagga	gcacgcgtga	aaaagaagac	gttccaacca	cgtcttcaaa	1260
gcaagtggat	tgatgtgaca	tctccactga	cgtaagggat	gacgcacaat	cccactatcc	1320
ttcgcaagac	ccttcctcta	tataagggaag	ttcatttcat	ttggagagga	cacgctcgag	1380
ctcattttctc	tattacttca	gccataacaa	aagaactctt	ttctcttctt	attaaaccat	1440
ggtacgtcct	gtagaaaccc	caaccgcgtga	aatcaaaaaa	ctcgacggcc	tgtgggcatt	1500
cagctcggat	cgcgaaaact	gtggaattga	tcagcgttgg	tggaagagcg	cgttacaaga	1560
aagccgggca	attgctgtgc	caggcagttt	taacgatcag	ttcgccgatg	cagatatctg	1620
taattatgcg	ggcaacgtct	ggtatcagcg	cgaagtcttt	ataccgaaaag	ggtgggcagg	1680
ccagcgtatc	gtgctgcgtt	tcgatgcggt	cactcattac	ggcaaagtgt	gggtcaataa	1740
tcaggaagtg	atggagcatc	agggcggcta	tacgccattt	gaagccgatg	tcacgccgta	1800
tgttattgcc	gggaaaagtg	tacgtatcac	cgtttgtgtg	aacaacgaac	tgaactggca	1860
gactatcccc	ccgggaatgg	tgattaccga	cgaaaacggc	aagaaaaagc	agtcttactt	1920
ccatgatttc	tttaactatg	ccggaatcca	tcgcagcgta	atgctctaca	ccacgccgaa	1980
cacctgggtg	gacgatatac	ccgtgggtgac	gcattgctcg	caagactgta	accacgcgtc	2040
tgttgactgg	caggtgggtg	ccaatgggtga	tgtcagcggt	gaactgcgtg	atgcggatca	2100
acaggtgggt	gcaactggac	aaggcactag	cgggactttg	caagtgggtga	atccgcacct	2160
ctggcaaccg	ggtgaagggt	atctctatga	actgtgcgtc	acagccaaaa	gccagacaga	2220
gtgtgatata	taccgccttc	gcgtcggcat	ccggtcagtg	gcagtgaagg	gccaacagtt	2280
cctgattaac	cacaaaccgt	tctaactttac	tggctttggg	cgtcatgaag	atgcggactt	2340
acgtggcaaa	ggattcgata	acgtgctgat	ggtgcacgac	cacgcattaa	tggactggat	2400
tggggccaac	tcctaccgta	cctcgcatta	cccttacgct	gaagagatgc	tcgactgggc	2460
agatgaacat	ggcatcgtgg	tgattgatga	aactgctgct	gtcggcttta	acctctcttt	2520
aggcattggg	ttcgaagcgg	gcaacaagcc	gaaagaactg	tacagcgaag	aggcagtcaa	2580
cggggaaaact	cagcaagcgc	acttaacaggc	gattaaagag	ctgatagcgc	gtgacaaaaa	2640
ccaccaagc	gtggtgatgt	ggagtattgc	caacgaaccg	gatacccgctc	cgcaagtgca	2700
cgggaatatt	tcgccactgg	cgggaagcaac	gcgtaaaactc	gacccgacgc	gtccgatcac	2760
ctgcgtcaat	gtaatgttct	gcgacgctca	caccgatacc	atcagcgatc	tctttgatgt	2820
gctgtgcctg	aaccgttatt	acggatggta	tgtccaaagc	ggcgatttgg	aaacggcaga	2880
gaaggtactg	gaaaaagaac	ttctggcctg	gcagagaaaa	ctgcatcagc	cgattatcat	2940
caccgaatac	ggcgtggata	cgttagccgg	gctgcactca	atgtacaccg	acatgtggag	3000
tgaagagtat	cagtgtgcat	ggctggatat	gtatcaccgc	gtctttgatc	gcgtcagcgc	3060
cgctcgtcgg	gaacaggtat	ggaatttcgc	cgattttgcg	acctcgcaag	gcataattgcg	3120
cgttggcggg	aacaagaaag	ggatcttcac	tcgcgaccgc	aaaccgaagt	cggcggcttt	3180

tctgctgcaa	aaacgctgga	ctggcatgaa	cttcggtgaa	aaaccgcagc	agggaggcaa	3240
acaatgaatc	aacaactctc	ctggcgccacc	atcgctcggt	acagcctcgg	tggggaattc	3300
cccggggta	cctaatagtg	agatccaaca	cttacgtttg	caacgtccaa	gagcaaatag	3360
accacgnacg	ccggaaggtt	gocgcagcgt	gtggattgcy	tctcaattct	ctcttgagg	3420
aatgcaatga	tgaatatgat	actgactatg	aaactttgag	ggaatactgc	ctagcaccgt	3480
cacctcataa	cgtgcatcat	gcatgccctg	acaacatgga	acatcgctat	ttttctgaag	3540
aattatgctc	gttgaggat	gtcgcggcaa	ttgcagctat	tgccaacatc	gaactacccc	3600
tcacgcatgc	attcatcaat	attattcatg	cggggaaaag	caagattaat	ccaactggca	3660
aatcatccag	cgtgattggt	aacttcagtt	ccagcgactt	gattcgtttt	ggtgctaccc	3720
acgttttcaa	taaggacgag	atggtggagt	aaagaaggag	tgcgtcgaag	cagatcgttc	3780
aaacatttgg	caataaagtt	tcttaagatt	gaatcctgtt	gccggtcttg	cgatgattat	3840
catataattt	ctgttgaatt	acgttaagca	tgtaataatt	aacatgtaat	gcatgacgtt	3900
atztatgaga	tgggttttta	tgattagagt	cccgaatta	tacatttaat	acgcgataga	3960
aaacaaaata	tagcgcgcaa	actaggataa	attatcgcg	gcggtgtcat	ctatgttact	4020
agatcgatca	aacttcggta	ctgtgtaatg	acgatgagca	atcgagaggc	tgactaacia	4080
aaggtacatc	ggtcgacgag	ctccctatag	tgagtcgtat	tagaggccga	cttgccaaa	4140
ttcgtaatca	tggtcatagc	tgtttccgtg	gtgaaattgt	tatccgctca	caattccaca	4200
caacatacga	gccggaagca	taaagtgtaa	agcctggggt	gcctaattgag	tgagctaact	4260
cacattaatt	gcgttgcgct	cactgccccg	tttccagtcg	ggaaacctgt	cgtgccagct	4320
gcattaatga	actggccaac	gcgcggggag	aggcggtttg	cgtattgggc	gctcttcgcg	4380
ttcctcgctc	actgactcgc	tgcgctcggt	cgttcggtcg	cggcgagcgg	tatcagctca	4440
ctcaaaggcg	gtaatacggg	tatccacaga	atcaggggat	aacgcaggaa	agaacatgtg	4500
agcaaaaagg	cagcaaaaagg	ccaggaaccg	taaaaaggcc	gcgttgctgg	cgtttttcca	4560
taggctccgc	ccccctgacg	agcatcacia	aaatcgacgc	tcaagtcaga	ggtggcgaaa	4620
cccgacagga	ctataaagat	accaggcggt	tccccctgga	agctccctcg	tgcgctctcc	4680
tgttccgacc	ctgccgctta	cgggatacct	gtccgccttt	ctcccttcgg	gaagcggtgc	4740
gctttctcat	agctcacgct	gtaggtatct	cagttcggtg	taggtcgttc	gctccaagct	4800
gggtgtgtg	cacgaacccc	ccgttcagcc	cgaccgctgc	gccttatccg	gtaactatcg	4860
tcttgagtcc	aacccggtaa	gacacgactt	atcgccactg	gcagcagcca	ctggttaacg	4920
gattagcaga	gcgaggtatg	taggcgggtg	tacagagttc	ttgaagtggg	ggcctaacta	4980
cggtacact	agaaggacag	tatttggtat	ctgcgctctg	ctgaagccag	ttaccttcgg	5040
aaaaagagtt	ggtagctctt	gatccggcaa	acaaaccacc	gctggtagcg	gtgggttttt	5100
tgtttgcaag	cagcagatta	cgcgcagaaa	aaaaggatct	caagaagatc	ctttgatctt	5160
ttctacgggg	tctgacgctc	agtggaaacg	aaactcacgt	taagggattt	tggtcatgag	5220
attatcaaaa	aggatcttca	cctagatcct	tttaaattaa	aatgaagtt	ttaaatcaat	5280
ctaaagtata	tatgagtaaa	cttggtctga	cagttaccaa	tgcttaatca	gtgaggcacc	5340
tatctcagcg	atctgtctat	tctgttcac	catagttgcc	tgactccccg	tcgtgtagat	5400
aactacgata	cgggagggtc	taccatctgg	ccccagtgtc	gcaatgatac	cgcgagaccc	5460
acgctcaccg	gctccagatt	tatcagcaat	aaaccagcca	gccggaaggg	ccgagcgcag	5520
aagtggctct	gcaactttat	ccgcctccat	ccagtctatt	aattgttgcc	gggaagctag	5580
agtaagtagt	tcgccagtta	atagtttgcg	caacgttggt	gccattgcta	caggcatcgt	5640
ggtgtcacgc	tcgtcgtttg	gtatggcttc	attcagctcc	ggttcccaac	gatcaaggcg	5700
agttacatga	tcccccatgt	tgtgcaaaaa	agcgggttagc	tccttcggtc	ctccgatcgt	5760
tgtcagaagt	aagttggccg	cagtgttatc	actcatggtt	atggcagcac	tgcataattc	5820
tcttactgtc	atgccatccg	taagatgctt	ttctgtgact	ggtgagtact	caaccaagtc	5880
attctgagaa	tagtgtatgc	ggcgaccgag	ttgctcttgc	ccggcgctcaa	tacgggataa	5940
taccgcgcca	catagcagaa	ctttaaaagt	gctcatcatt	ggaaaacgtt	cttcggggcg	6000
aaaactctca	aggatcttac	cgtgtttgag	atccagttcg	atgtaaccca	ctcgtgcacc	6060
caactgatct	tcagcatctt	ttactttcac	cagcgtttct	gggtgagcaa	aaacaggaag	6120
gcaaaatgcc	gcaaaaaagg	gaataaaggc	gacacggaaa	tggtgaatac	tcatactctt	6180
cctttttcaa	tattattgaa	gcatttatca	gggttattgt	ctcatgagcg	gatacatatt	6240
tgaatgtatt	tagaaaaata	aacaaatagg	ggttccgcgc	acatttcccc	gaaaagtgcc	6300
acctgacgcg	ccctgtagcg	gcgcattaag	cgcggcggtt	gtggtgggta	cgcgcagcgt	6360
gaccgtata	cttgccagcg	ccctagcgcc	cgtctcttcc	gctttcttcc	cttcttttcc	6420
cgccacgttc	gccggcttcc	cccgtaagc	tctaaatcgg	ggcatccctt	tagggttccg	6480
atttagtgct	ttacggcacc	tcgaccccaa	aaaacttgat	tagggtgatg	gttcacgtag	6540
tgggccatcg	ccctgataga	cggtttttcg	ccctttgacg	ttggagtcca	cgttctttta	6600
tagtggactc	ttgttccaaa	ctggaacaac	actcaaccct	atctcggtct	attcttttga	6660
tttataaggg	attttgccga	tttgggcta	ttggttaaaa	aatgagctga	tttaacaaaa	6720
atttaacgcg	aattttaaca	aaatattaac	aaaatattaa	cgtttacaat	ttcccatcgc	6780

ccattcaggc	tgcgcaactg	ttgggaaggg	cgatcggtgc	gggcctcttc	gctattacgc	6840
cagctggcga	aagggggatg	tgctgcaagg	cgattaagtt	gggtaacgcc	aggggtttcc	6900
cagtcacgac	gttgtaaaac	gacggccagt	gccaaagctga	cttggtcagc	ggccgcagat	6960
ttaggtgaca	ctata					6975

<210> 18
 <211> 3985
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:chimeric gene

<220>
 <221> unsure
 <222> (3249)
 <223> n = a, c, g or t

<400> 18

aagctttgct	ctagatcaaa	ctcacatcca	aacataacat	ggatatcttc	cttaccaatc	60
ataactaatta	ttttgggtta	aatattaatc	attattttta	agatattaat	taagaaatta	120
aaagattttt	taaaaaaatg	tataaaatta	tattattcat	gatttttcat	acatttgatt	180
ttgataataa	atataatttt	tttaatttct	taaaaaatgt	tgcaagacac	ttattagaca	240
tagtcttggt	ctgtttacaa	aagcattcat	catttaatac	attaaaaaat	atttaatact	300
aacagtagaa	tcttcttggt	agtgggtgtg	gagtaggcaa	cctggcattg	aaacgagaga	360
aagagagtca	gaaccagaag	acaaataaaa	agtatgcaac	aaacaaatca	aatcaaaagg	420
gcaaaggctg	gggttggtc	aattgggtgc	tacattcaat	tttcaactca	gtcaacgggt	480
gagattcact	ctgacttccc	caatctaagc	cgcggatgca	aacggttgaa	tctaaccac	540
aatccaatct	cgttacttag	gggcttttcc	gtcattaaat	cacctctgcc	acccggtttc	600
cctataaaatt	ggaactcaat	gtccccctct	aaactcgtat	cgttccagag	ttgagaccaa	660
gacacactcg	ttcatatata	tctctgctct	tctcttctct	tctacctctc	aaggtaactt	720
tcttctccct	ctaccaaata	ctagattccg	tggttcaatt	tcggatcttg	cacttctggt	780
ttgctttgcc	ttgctttttc	ctcaactggg	tccatctagg	atccatgtga	aactctactc	840
tttctttaat	atctgcggaa	tacgcgttgg	acttttcagat	ctagtcgaaa	tcatttcata	900
attgcctttc	tttcttttag	cttatgagaa	ataaaatcac	ttttttttta	tttcaaaata	960
aaccttgggc	cttggtctga	ctgagatggg	gtttgggtgat	tacagaattt	tagcgaattt	1020
tgtaattgta	cttggttgc	tgtagttttg	ttttgttttc	ttgtttctca	tacatttctt	1080
aggcttcaat	tttattcgag	tataggtcac	aataggaatt	caaactttga	gcaggggaat	1140
taatcccttc	cttcaaatcc	agtttggttg	tatatatgtt	taaaaaatga	aacttttgct	1200
ttaaattcta	ttataacttt	ttttatggct	gaaatttttg	catgtgtctt	tgctctctgt	1260
tgtaaaattta	ctgttttaggt	actaactcta	ggcttggttg	gcagtttttg	aagtataacc	1320
atggtacgtc	ctgtagaaac	cccaaccggt	gaaatcaaaa	aactcgacgg	cctgtgggca	1380
ttcagttctg	atcgcgaaaa	ctgtggaatt	gatcagcggt	ggtgggaaag	cgcggtacaa	1440
gaaagccggg	caattgctgt	gccaggcagt	tttaacgatc	agttcgccga	tgcatgattt	1500
cgtaattatg	cgggcaacgt	ctggtatcag	cgcgaagtct	ttataccgaa	aggttgggca	1560
ggccagcgta	tcgtgctgcg	tttcgatgcg	gtcactcatt	acggcaaagt	gtgggtcaat	1620
aatcaggaag	tgatggagca	tcaggggcgg	tatacgccat	ttgaagccga	tgtcacgcgg	1680
tatgttattg	ccgggaaaaag	tgtacgtatc	accgtttgtg	tgaacaacga	actgaactgg	1740
cagactatcc	cgccgggaat	ggtgattacc	gacgaaaacg	gcaagaaaaa	gcagtcttac	1800
ttccatgatt	tctttaacta	tgccggaatc	catcgacgcg	taatgctcta	caccacgcgg	1860
aacacctggg	tggaacgat	caccgtgggt	acgcatgtcg	cgcaagactg	taaccacgcg	1920
tctgttgact	ggcaggtggt	ggccaatggt	gatgtcagcg	ttgaactgcg	tgatgcggat	1980
caacaggtgg	ttgcaactgg	acaaggcact	agcgggactt	tgcaagtggg	gaatccgcac	2040
ctctggcaac	cgggtgaagg	ttatctctat	gaactgtgcg	tcacagccaa	aagccagaca	2100
gagtgtgata	tctaccgct	tcgcgtcggc	atccggtcag	tggcagtga	gggccaacag	2160
ttcctgatta	accacaaacc	gttctacttt	actggctttg	gtcgtcatga	agatgcggac	2220
ttacgtggca	aaggattcga	taacgtgctg	atggtgcacg	accacgcatt	aatggactgg	2280
attggggcca	actcctaccg	tacctcgcat	taccttacg	ctgaagagat	gctcgaactg	2340
gcagatgaac	atggcatcgt	ggtgattgat	gaaactgctg	ctgtcggctt	taacctctct	2400
ttaggcattg	gtttcgaagc	gggcaacaag	ccgaaagaac	tgtacagcga	agaggcagtc	2460

aacggggaaa	ctcagcaagc	gcacttacag	gcgattaaag	agctgatagc	gcgtgacaaa	2520
aaccacccaa	gcgtggtgat	gtggagtatt	gccaacgaac	cggatacccg	tccgcaagtg	2580
cacgggaata	tttcgccact	ggcggaagca	acgcgtaaac	tcgacccgac	gcgtccgata	2640
acctgcgtca	atgtaatggt	ctgcgacgct	cacaccgata	ccatcagcga	tctctttgat	2700
gtgctgtgcc	tgaaccgtta	ttacggatgg	tatgtccaaa	gcggcgattt	ggaaacggca	2760
gagaaggtag	tggaaaaaga	acttctggcc	tggcaggaga	aactgcatca	gccgattatc	2820
atcaccgaat	acggcgtgga	tacgttagcc	gggctgcact	caatgtacac	cgacatgttg	2880
agtgaagagt	atcagtgtgc	atggctggat	atgtatcacc	gcgtctttga	tcgcgtcagc	2940
gccgtcgtcg	gtgaacaggt	atggaatttc	gccgattttg	cgacctcgca	aggcatattg	3000
cgcgttggcg	gtaacaagaa	agggatcttc	actcgcgacc	gcaaaccgaa	gtcggcgggt	3060
tttctgtctg	aaaaacgctg	gactggcatg	aacttcggtg	aaaaaccgca	gcaggagggc	3120
aaacaatgaa	tcaacaactc	tcttgccgca	ccatcgtcgg	ctacagcctc	ggtggggaat	3180
tccccggggg	tacctaatag	tgagatccaa	cacttacgtt	tgcaacgtcc	aagagcaaat	3240
agaccacgna	cgccggaagg	ttgccgcagc	gtgtggattg	cgtctcaatt	ctctcttgca	3300
ggaatgcaat	gatgaatatg	atactgacta	tgaactttg	agggaatact	gcctagcacc	3360
gtcacctcat	aacgtgcac	atgcattccc	tgacaacatg	gaacatcgct	atttttctga	3420
agaattatgc	tcgttggagg	atgtcgcggc	aattgcagct	attgccaaca	tcgaactacc	3480
cctcacgcat	gcattcatca	atattattca	tgccgggaaa	ggcaagatta	atccaactgg	3540
caaatcatcc	agcgtgattg	gtaacttcag	ttccagcgac	ttgattcgtt	ttggtgctac	3600
ccacgttttc	aataaggacg	agatggtgga	gtaaagaagg	agtgcgtcga	agcagatcgt	3660
tcaaacattt	ggcaataaag	tttcttaaga	ttgaatcctg	ttgccggtct	tgcatgattt	3720
atcatataat	ttctgttgaa	ttacgttaag	catgtaataa	ttaacatgta	atgcattgacg	3780
ttattttatga	gatgggtttt	tatgattaga	gtcccgcgaat	tatacattta	atagcgata	3840
gaaaacaaaa	tatagcgcgc	aaactaggat	aaattatcgc	gcgcggtgtc	atctatgtta	3900
ctagatcgat	caaacttcgg	tactgtgtaa	tgacgatgag	caatcgagag	gctgactaac	3960
aaaaggtaca	tcggctcgacg	agctc				3985

<210> 19

<211> 3684

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:chimeric gene

<220>

<221> unsure

<222> (2948)

<223> n = a, c, g or t

<400> 19

aagctttgct	ctagatcaaa	ctcacatcca	aacataacat	ggatatcttc	cttaccaatc	60
atactaatta	ttttgggtta	aatattaatc	attattttta	agatattaat	taagaaatta	120
aaagattttt	taaaaaaatg	tataaaatta	tattattcat	gatttttcat	acatttgatt	180
ttgataataa	atatattttt	tttaatttct	taaaaaatgt	tgcaagacac	ttattagaca	240
tagtcttggt	ctgttttaca	aagcattcat	catttaatac	attaaaaaat	atttaatact	300
aacagtagaa	tcttcttggtg	agtgggtgtg	gagtaggcaa	cctggcattg	aaacgagaga	360
aagagagtca	gaaccagaag	acaaataaaa	agtatgcaac	aaacaaatca	aaatcaaagg	420
gcaaaggctg	gggttggtct	aattgggttg	tacattcaat	tttcaactca	gtcaacgggt	480
gagattcact	ctgacttccc	caatctaagc	cgcggtatga	aacgggtgaa	tctaaccac	540
aatccaatct	cgttacttag	gggtttttcc	gtcattaact	cacctctgcc	acccggtttc	600
cctataaatt	ggaactcaat	gctccccctc	aaactcgtat	cgcttcagag	ttgagaccaa	660
gacacactcg	ttcatatata	tctctgctct	tctcttctct	tctacctctc	aaggtaactt	720
tcttctccct	ctaccaaata	ctagattccg	tggttcaatt	tcggatcttg	cacttctggt	780
ttgtcttgcc	ttgtcttttc	ctcaactggg	tccatctagg	atccatgtga	aactctactc	840
tttctttaat	atctgcggaa	tacgcgttgg	actttcagat	ctagtcgaaa	tcatttcata	900
attgcctttc	tttcttttag	cttatgagaa	ataaaatcac	ttttttttta	tttcaaaata	960
aaccttgggc	cttgtgtgta	ctgagatggg	gtttgggtgat	tacagaattt	tagcgaattt	1020
tgtaattgta	cttgtttgtc	tgtagttttg	ttttgttttc	ttgtttctca	tacattcctt	1080
aggcttcaat	tttattcgag	tataggtcac	aataggaatt	caaactttga	gcagggggaat	1140

taatcccttc	cttcaaatcc	agtttgttg	tatatatgtt	taaaaaatga	aacttttgct	1200
ttaaattcta	ttataacttt	ttttatgggt	gaaatttttg	catgtgtctt	tgctctctgt	1260
tgtaaattta	ctgttttaggt	actaactcta	ggcttggtgt	gcagtttttg	aagtataacc	1320
atggccactt	tcttcgcccc	aacctccttc	ccctcccaact	ctctctccaa	aaccttcgat	1380
acccatttcg	ccctcgcccc	gaaagtcaac	gtctttgtga	acttcagggc	gaggaggcac	1440
gttgggggtgc	gagtttcgaa	cgcgctgac	gaaccagatg	gagggagact	cgtggagctt	1500
gtgggtgacgg	attttgagag	ggatttgaag	aaggggtgag	ctctttcggt	gccgaggatc	1560
aagctctcaa	ggattgacct	tgagtgggtc	catgtcctca	gcgaaggatg	ggccacaccc	1620
ctgaaaggct	tcatgagaga	agccgagttc	ctccaaacgc	ttcatttcaa	ctcgctccga	1680
ctcgatgatg	ggtcgggtcgt	gaacatgtca	gtgcccatcg	tgctggctat	tgatgatgcg	1740
cagaagcatc	ggatcgggga	taacaaaaag	gttgctcttt	ttgattccaa	gggagacccc	1800
gttgcaattc	tcaataatat	tgagatttat	aagcatccta	aagaagaaa	aatagcccga	1860
acttggggaa	ccattgcccc	tgccctacct	tatgttgaac	aaactataac	caatgctgga	1920
aattgggtga	ttgggggtga	cctagagggtc	attgaaccaa	ttcagtacaa	tgatggactt	1980
gatcattttc	gtctatctcc	ggcacaactc	cgtgcagagt	tcacaaggcg	caatgcggat	2040
gctgtgtttg	ccttcagact	ccggaatcct	gttcacaatg	gccatgcttt	gctaatagact	2100
gacacccgaa	agcgccctct	tgagatgggc	tataagaatc	ctgtcctctt	gcttcatcca	2160
cttgagggtc	acaccaaagc	tgatgatgtc	ccacttgatt	ggcgaatgaa	gcaacatgag	2220
aaggtacttg	aggatgggtg	tcttgatcca	gagacaactg	tggtatccat	attcccatct	2280
cccattgcact	atgctggacc	cacggagggtg	cagtggcatg	caaaggctag	gatcaatgca	2340
ggggctaact	tctatatcgt	tggtcgtgac	cccgaggca	tgagccatcc	agttgagaaa	2400
agagatctgt	atgatgctga	ccatggaaa	aaagtattga	gcatggcacc	gggactagag	2460
cgtctaaaca	ttcttccttt	cagggttgct	gcatatgaca	agactcaggg	taaaatggca	2520
ttctttgacc	cttcaaggcc	tcaggacttc	ctgttcatat	caggcacaaa	gatgcgcaca	2580
ctggcaagga	acaaagaaa	tcctcctgat	ggatttatgt	gccctgggtg	atggaagggtg	2640
ctgggtgatt	actatgatag	cttagtactc	tcaagcaacg	gcaaagtgca	ggaagctgtt	2700
ccagcttaat	cttgtatcat	atcataatgt	atatactca	tgattgggag	aaaccttaag	2760
cttatgtatt	ctcctgctaa	gacatacttc	acgaggatcc	tctggcccaa	tctaataata	2820
ataataaatt	aaaacttttg	ggaggcaaaa	aaaaaaaaaa	aaaaaaaaaa	aactcgaggg	2880
ggggcccggt	acctaatagt	gagatccaac	acttacgttt	gcaacgtcca	agagcaataa	2940
gaccacgnac	gccggaagg	tgccgcagcg	tgtggattgc	gtctcaattc	tctcttgacg	3000
gaatgcaatg	atgaatatga	tactgactat	gaaactttga	gggaatactg	cctagcaccg	3060
tcacctcata	acgtgcatca	tgcatgccct	gacaacatgg	aacatcgcta	ttttctgaa	3120
gaattatgct	cgttggagga	tgtcgcggca	attgcagcta	ttgccaacat	cgaactaccc	3180
ctcacgcatg	cattcatcaa	tattattcat	gcggggaaa	gcaagattaa	tccaactggc	3240
aaatcatcca	gcgtgattgg	taacttcagt	tccagcgact	tgattcggtt	tggtgctacc	3300
cacgttttca	ataaggacga	gatggtgagg	taaagaagga	gtgcgtcgaa	gcagatcggt	3360
caaacatttg	gcaataaagt	ttcttaagat	tgaatcctgt	tgccggtctt	gcgatgatta	3420
tcatataaatt	tctgttgaat	tacgttaagc	atgtaataat	taacatgtaa	tgcatgacgt	3480
tatttatgag	atgggttttt	atgattagag	tcccgcaatt	atacatttaa	tacgcgatag	3540
aaaacaaaat	atagcgcgca	aactaggata	aattatcgcg	cgcggtgtca	tctatgttac	3600
tagatcgatc	aaacttcggt	actgtgtaat	gacgatgagc	aatcgagagg	ctgactaaca	3660
aaaggtacat	cggtcgacga	gctc				3684

<210> 20

<211> 3963

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:chimeric gene

<220>

<221> unsure

<222> (3227)

<223> n = a, c, g or t

<400> 20

aagctttgct	ctagatcaaa	ctcacatcca	aacataacat	ggatatcttc	cttaccaatc	60
atactaatta	ttttgggtta	aatattaatc	attattttta	agatattaat	taagaaatta	120

aaagattttt	taaaaaaatg	tataaaaatta	tattattcat	gatttttcat	acatttgatt	180
ttgataataa	atatattttt	tttaatttct	taaaaaatgt	tgcaagacac	ttattagaca	240
tagtcttggt	ctgtttacaa	aagcattcat	catttaatac	attaaaaaat	atttaatact	300
aacagtagaa	tcttcttggt	agtgggtgtg	gagtaggcaa	cctggcattg	aaacgagaga	360
aagagagtca	gaaccagaag	acaaataaaa	agtatgcaac	aaacaaatca	aaatcaaagg	420
gcaaaggctg	gggttggtct	aattggttgc	tacattcaat	tttcaactca	gtcaacgggt	480
gagattcact	ctgacttccc	caatctaagc	cgcggatgca	aacgggtgaa	tctaaccac	540
aatccaatct	cgttacttag	gggcttttcc	gtcatttaact	cacccctgcc	acccggtttc	600
cctataaaat	ggaactcaat	gctccccctc	aaactcgtat	cgcttcagag	ttgagacca	660
gacacactcg	ttcataatc	tctctgctct	tctcttctct	tctacctctc	aaggtacttt	720
tcttctccct	ctaccaaatc	ctagattccg	tggttcaatt	tcggatcttg	cacttctggg	780
ttgctttgcc	ttgcttttcc	ctcaactggg	tccatctagg	atccatgtga	aactctactc	840
tttctttaat	atctgcggaa	tacgcgttgg	actttcagat	ctagtcgaaa	tcatttcata	900
attgcctttc	tttcttttag	cttatgagaa	ataaaatcac	ttttttttta	tttcaaaata	960
aaccttgggc	cttgtgctga	ctgagatggg	gtttgggtgat	tacagaattt	tagcgaattt	1020
tgtaattgta	cttggtttgtc	tgtagttttg	ttttgttttc	ttgtttctca	tacattccct	1080
aggcttcaat	tttattcgag	tataggtcac	aataggaatt	caaactttga	gcaggggaat	1140
taatcccttc	cttcaaatec	agtttggttg	tatatatggt	taaaaaatga	aacttttgct	1200
ttaaaattca	ttataacttt	ttttatggct	gaaatttttg	catgtgtctt	tgctctctgt	1260
tgtaaaattta	ctgttttaggt	actaaactca	ggcttggttg	gcagtttttg	aagtataaac	1320
atggccggtt	cgagctcgca	catgcgtttc	acctttgagt	gccgctccga	tcccgaattc	1380
tcgccccccc	cgccgtcctt	cgacaacctc	cgccgcggaa	acttccgctc	ctccgcagga	1440
tccggcgcg	cgtttcacgg	catctcctcc	ctcatcctcc	gcttccctcc	caacttccag	1500
cgccagctaa	gcaccaaggc	gcgcgcgaac	tgcaagcaac	tcggcgctcg	gcaaactcgt	1560
gccgcttcgt	ggtcgaacaa	cagcgacaac	tctccggccg	ccggggctcc	ggcgccgccc	1620
gcggccaccg	ccacggacgc	cgtacgggtg	cctctccccg	tcgtcgtcgc	cgccaacgag	1680
gacgtcgttg	tctccgcgcg	ggcagacag	aacggggctg	tacagttaaa	cagtgttctt	1740
tattcttcct	ttttgaaate	cgatgcaagg	aaaacgattc	atgccgctga	aagactgggt	1800
aggggtattg	agactgatgg	aattaccacc	cctgtgggtt	acacttctgc	ctactttttt	1860
aagaaaaccg	ctgatctcat	tgatttcaag	gagaatcgtc	aagttagtta	tgaatacggg	1920
cgctatggaa	acccaacgac	ggtgggttct	gaggagaaga	taagtgcatt	ggagggggcc	1980
gaatcaactg	tgataatggc	gtctgggatg	tgtgctagcg	tagtctgtgt	tatggcactg	2040
gttcagactg	gtggacatct	tgtgaccact	acggattgtt	ataggaagac	tagaatattc	2100
attgagactt	ttcttccaaa	gatggggatc	acgaccactg	taattgatcc	agcagatggt	2160
ggagccttgg	aatctgcatt	ggagcagcac	aatgtgtctc	tattcttcac	tgagtctcct	2220
accaatccat	tcctgagatg	tgttgatatt	aagctgggtt	cagagctttg	ccacaagaag	2280
gggacttttg	tctgtattga	tggtacattt	gcaactccat	tgaaccagaa	ggcccttgcc	2340
cttggcgctg	atctgtattct	gcactcctta	acaaaataca	tgggtggaca	tcagtatgtc	2400
cttgggtggt	gcataagtgg	ttcaatttaag	gtgggtttcg	aaattcggac	tttgaccat	2460
gttttggttg	gtacacttaa	cccgaatgct	gcatacctat	tcatacagagg	catgaaaacg	2520
ctgcatctcc	gtgtacagca	gcagaattca	acaggaatga	ggatggccaa	acttttagag	2580
gcacatccca	aggtgaagcg	ggtctactat	ccaggcttgc	cgagtcaccc	tgaacatgag	2640
cttgccaaga	ggcagatgac	tggtttcggt	ggtgttgatc	gttttgagat	tgatggagat	2700
ctacatacca	caataaaaat	tattgattca	ttgaaaatcc	catatattgc	ggcctcgttt	2760
ggtggctgtg	agagcattgt	ggatcaacct	gctattttgt	cttactggga	tcttctctag	2820
tcagaaaagg	ccaagtacaa	gatttatgac	aacctggttc	gcttcagctt	tggagttgaa	2880
gattttgagg	atattgaagg	tgatgtcctg	caagctcttg	aagctatata	gacagttttc	2940
ctgattcacc	caagtttttt	tcttttataa	ttgtgctatt	tgtttgttat	cacatctggc	3000
gattcaattg	aattttgatc	gtctaattgt	ctgttggaat	tgtgttaaga	tgaatggtct	3060
ctaatttgga	tgttatgaaa	cttgtgatga	attgttgaaa	ttgaaacctc	tatttgatga	3120
aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	actcgagggg	gggcccggta	cctaatagtg	3180
agatccaaca	cttacgtttg	caacgtccaa	gagcaaatag	accacgnacg	ccggaagggt	3240
gccgcagcgt	gtggattgcg	tctcaattct	ctcttgccag	aatgcaatga	tgaatatgat	3300
actgactatg	aaactttgag	ggaatactgc	ctagcacctg	cacctcataa	cgtgcatcat	3360
gcatgccctg	acaacatgga	acatogctat	ttttctgaag	aattatgctc	gttgaggat	3420
gtcgcggcaa	ttgcagctat	tgccaacatc	gaactacccc	tcacgcatgc	attcatcaat	3480
attattcatg	cggggaaagg	caagattaat	ccaactggca	aatcatccag	cgtgattggg	3540
aacttcagtt	ccagcgactt	gattcgtttt	ggtgctaccc	acgttttcaa	taaggacgag	3600
atggtggagt	aaagaaggag	tgcgtcgaag	cagatcggtc	aaacatttgg	caataaagtt	3660
tcttaagatt	gaatcctggt	gccgggtctg	cgatgattat	catataattt	ctgttgaatt	3720

acgttaagca tgtaataatt aacatgtaat gcatgacgtt atttatgaga tgggttttta 3780
tgattagagt cccgcaatta tacatttaac acgcgataga aaacaaaata tagcgcgcaa 3840
actaggataa attatcgcg gcggtgtcat ctatgttact agatcgatca aacttcggta 3900
ctgtgtaatg acgatgagca atcgagaggg tgactaacia aaggtaacac ggtagacgag 3960
ctc 3963